

REPLACEMENT SHEET

ABSTRACT OF THE DISCLOSURE

Polymer composite including a compatibilizer and having selective permeability to chemical permeants due to interaction differences between the compatibilizer and the chemical permeants, includes 50-99 wt % of an amorphous thermoplastic resin selected from the group polyethylenepropylendienterpolymer, poly(1-(trimethylsilyl)-1-propyne), amorphous nylon, polystyrene and polycarbonate; 0.9-50 wt % of a semi-crystalline polymer selected from the group polyamide (nylons), polyethylene terephthalate, polybutylene terephthalate, polyethylene, polypropylene, polyetheretherketone, polyvinylidene fluoride, polytetrafluoroethylene, polyphenylene sulfide, and thermotropic or lyotropic liquid crystal polymer, and dispersed in the amorphous thermoplastic resin to provide a dispersed phase having an interface with the amorphous thermoplastic resin; and 0.1-10 wt % of a compatibilizer positioned at the interface of the dispersed phase with the amorphous thermoplastic resin and having different interactions with different chemical permeants so that the selective permeability of the polymer composite is affected.